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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,236	12/07/2000	Ioannis Pavlidis	H0001166	9502

7590 07/14/2004

Attention: John G. Shudy, Jr.
Honeywell International Inc.
Law Department AB2
P.O. Box 2245
Morristown, NJ 07962-9806

EXAMINER	
TABATABAI, ABOLFAZL	

ART UNIT	PAPER NUMBER
2625	10

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/732,236	PAVLIDIS, IOANNIS	
	Examiner	Art Unit	
	Abolfazl Tabatabai	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _____ is/are rejected.

7)☒ Claim(s) *22,24,28,30 and 31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Argument/arguments

1. Applicant's arguments, (pages 2-7), filed on April 27, 2004 with respect to the rejection(s)of claim(s) 1-21, 23, 25-27, 29 and 32-37 under Hacskaylo (U S 4,500,784) in view of Udden et al (U S 5,180,907). have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Francine J. Prokoski " Disguise detection and identification using infrared imagery "(XP-001028502) and Pavlidis et al " A Near-Infrared Fusion Scheme for Automatic Detection of Vehicle Passengers " (XP-001028284).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6,14-19-21, 23, 27, 29 and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prokoski, Disguise detection and identification using infrared imagery, XP-001028502, in view of Pavlidis et al., A Near-Infrared Fusion Scheme for Automatic Detection of Vehicle Passengers, XP-001028284.

Regarding claim 1, Prokoski discloses a method for use in detection of a person disguised with one or more artificial materials, the method comprising:

detecting reflection from at least one portion of a head of a human body (page 27, second paragraph lines 1-8) in at least a portion of an upper band of the near infrared spectrum.

determining the presence of an artificial material associated with the head of the human body based on the detected reflection (page 27, second paragraph lines 4-6).

However, **Prokoski** is silent about specific details the regarding the step of: an upper band of the near infrared spectrum.

In the same field (infrared imagery) of endeavor, however, Pavlidis discloses A Near-Infrared Fusion Scheme for Automatic Detection of Vehicle Passengers comprising the step of an upper band of the near infrared spectrum (page 3, item 4. lines 1-5).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an upper band of the near infrared spectrum as taught by Pavlidis in the system of Prokoski because Pavlidis provides Prokoski a system that increased contrast will facilitate a clean-cut thresholding of the fused image. A good classifier will always classify fast and accurately such a simple binary pattern, ensuring the reliable real-time operation of the HOV system.

Regarding claim 2, Prokoski is silent about specific details the regarding the step of at least a portion of the upper band of the near infrared spectrum is at least a portion within the range of 1.4μm and above in upper band of the near infrared spectrum.

In the same field (infrared imagery) of endeavor, however, Pavlidis discloses A Near-Infrared Fusion Scheme for Automatic Detection of Vehicle Passengers comprising the step of at least a portion of the upper band of the near infrared spectrum is at least a portion within the range of 1.4μm and above in upper band of the near infrared spectrum (page 3, item 4. lines 1-5).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the range of 1.4μm and above in upper band of the near infrared spectrum as taught by Pavlidis in the system of Prokoski because Pavlidis provides Prokoski a system that increased contrast will facilitate a clean-cut thresholding of the fused image. A good classifier will always classify fast and accurately such a simple binary pattern, ensuring the reliable real-time operation of the HOV system.

Regarding claim 3, Prokoski is silent about specific details the regarding the step of at least a portion of the upper band of the near infrared spectrum is at least a portion within the range of 1.4μm to 2.4 μm in the upper band of the near infrared spectrum.

In the same field (infrared imagery) of endeavor, however, Pavlidis discloses A Near-Infrared Fusion Scheme for Automatic Detection of Vehicle Passengers comprising the step of at least a portion of the upper band of the near infrared spectrum is at least a portion within the range of 1.4μm to 2.4 μm in the upper band of the near infrared spectrum (page 3, item 4. lines 1-5).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the range of 1.4μm to 2.4 μm in the upper

band of the near infrared spectrum as taught by Pavlidis in the system of Prokoski because Pavlidis provides Prokoski a system that increased contrast will facilitate a clean-cut thresholding of the fused image. A good classifier will always classify fast and accurately such a simple binary pattern, ensuring the reliable real-time operation of the HOV system.

Claim 4, is similarly analyzed as claim 3, above.

Regarding claim 5, Prokoski discloses detecting reflection comprises detecting reflection from at least a skin portion of the head of the human body (page 27, fourth paragraph lines 1-3).

Claim 6, is similarly analyzed as claim 5, above.

Claim 14, is similarly analyzed as claim 2, above.

Claim 15, is similarly analyzed as claim 1, above.

Claim 16, is similarly analyzed as claim 1, above.

Claim 17, is similarly analyzed as claim 2, above.

Claim 18, is similarly analyzed as claim 3, above.

Claim 19, is similarly analyzed as claim 4, above.

Claim 21, is similarly analyzed as claim 11, above.

Claim 23, is similarly analyzed as claim 1, above.

Claim 27, is similarly analyzed as claim 14, above.

Claim 29, is similarly analyzed as claim 1, above.

Claim 33, is similarly analyzed as claim 3, above.

Claim 34, is similarly analyzed as claim 4, above.

Claim 35, is similarly analyzed as claim 5, above.

Claim 36, is similarly analyzed as claim 6, above.

Claim 37, is similarly analyzed as claim 7, above.

4. Claims 8-13, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prokoski, Disguise detection and identification using infrared imagery, XP-001028502, and Pavlidis et al., A Near-Infrared Fusion Scheme for Automatic Detection of Vehicle Passengers, XP-001028284 as applied to claims 1,16 and 29 and further in view in view of Smoot (U S 5,940,139).

Regarding claim 8, Prokoski discloses the method of determining the presence of an artificial material associated with the head of the human body comprises:

generating data representative of the detected reflection (page 27, fourth paragraph lines 1-8).

While Prokoski and Pavlidis are silent about comparing the data to at least one threshold reference reflection level.

In the same field of endeavor, however, Smooth discloses a system for background extraction comprising the step of comparing the data to at least one threshold reference reflection level (column 4, lines 41-49).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use comparing the data to at least one threshold reference reflection level as taught by Smoot in the system of Prokoski because Smooth provides Prokoski a system for a background extraction and relates to a photography and extracting objects from a composite scene being shot by a video camera. The infrared light output is used as a key for object extraction.

Extraction may be achieved by lighting a first object in visible light and lighting a second object in infrared and visible light, so the infrared light camera output is used as a key to remove the second object from the visible light camera output. This system has many advantages such as no "blue screen" or specially prepared studio is required; the color shame of the foreground is not limited; teleconferees can select to see (or not see) any other conferee's natural background selection.

Regarding claim 9, Prokoski and Pavlidis are silent about the method, wherein generating data representative of the detected reflection comprises focusing the reflection on a pixel array that is sensitive to the at least a portion of the upper band of the near infrared spectrum, and generating a signal representative of the spectral power for each of a plurality of pixels of the pixel array to be used for the comparison to the at least one threshold reference reflection level.

In the same field of endeavor, however, Smooth discloses a system for background extraction comprising the step of generating data representative of the detected reflection comprises focusing the reflection on a pixel array that is sensitive to the at least a portion of the upper band of the near infrared spectrum, and generating a signal representative of the spectral power for each of a plurality of pixels of the pixel array to be used for the comparison to the at least one threshold reference reflection level (column 4, lines 41-58).
It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use focusing the reflection on a pixel array that is

sensitive to the at least a portion of the upper band of the near infrared spectrum, and generating a signal representative of the spectral power for each of a plurality of pixels of the pixel array to be used for the comparison to the at least one threshold reference reflection level as taught by Smoot in the system of Prokoski because Smooth provides Prokoski a system for a background extraction and relates to a photography and extracting objects from a composite scene being shot by a video camera. The infrared light output is used as a key for object extraction. Extraction may be achieved by lighting a first object in visible light and lighting a second object in infrared and visible light, so the infrared light camera output is used as a key to remove the second object from the visible light camera output. This system has many advantages such as no "blue screen" or specially prepared studio is required; the color shame of the foreground is not limited; teleconferees can select to see (or not see) any other conferee's natural background selection.

Claim 10, is similarly analyzed as claim 9 above.

Claim 11, is similarly analyzed as claim 1 above.

Claims 12, 13, 25 and 26 are similarly analyzed as claim 9 above.

5. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prokoski, Disguise detection and identification using infrared imagery, XP-001028502, and Pavlidis et al., A Near-Infrared Fusion Scheme for Automatic Detection of Vehicle Passengers, XP-001028284 as applied to claim 1, and further in view in view of Udden et al (U S 5,180,907).

Regarding claim 7, Prokoski and Pavlidis are silent about a method wherein the specific, details regarding the step of determining the presence of an artificial material associated with the head of the human body comprises displaying to a user a representation of the detected reflection of the at least one portion of the head of the human body.

In the same field of endeavor, however, Udden discloses a system for measuring intensity variations of light to the human eye such as IR- light comprising displaying to a user a representation of the detected reflection of the at least one portion of the head of the human body (column 7, lines 26-39).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use displaying to a user representation of the detected reflected of at least one portion of the head of a human body as taught by Udden in the system of Prokoski because Udden provides Prokoski a system measuring intensity variations of light to the human eye such as IR-light and also contemplates a process for measuring the movements of a person's eye, illuminating the eye with light pulse, measuring the light reflected during the time between pulses , evaluating the measured values obtained to provide first rough values of the eye movement and values indicating the movement of the person, s head correcting.

Claim 20, is similarly analyzed as claim 7, above.

Allowable Subject Matter

6. Claims 22, 24, 28, 30, 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other prior art cited

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

U. S. Patent (U S 5,866,887) to Hashimoto et al is cited for apparatus for detecting the number of passes.

U.S. Patent (U S 6,498,564) to Oda is cited for tacking and monitoring system.

U S. Patent (U S 5,792,050) to Alam et al is cited for near-infrared noninvasive spectroscopic determination of PH.

U S. Patent (U S 6,353,764 B1) to Imagawa et al is cited for control method.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to ABOLFAZL TABATABAI whose telephone number is (703) 306-5917.

The Examiner can normally be reached on Monday through Friday from 9:30 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Mehta Bhavesh M, can be reached at (703) 308-5246. The fax phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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July 9, 2004

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